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ABSTRACT

Generic skills--skills that apply across a variety of jobs and life contexts--are taking on increased importance in Australia and internationally. There is a high demand for generic skills in the workplace because employers seek to ensure business success by recruiting and retaining employees who have a variety of skills and personal attributes as well as technical skills, while individuals also need a range of generic skills to form and maintain family and community relationships. Generic skills are known by several names, including key skills, core skills, essential skills, key competencies, necessary skills, transferable skills, and industry's preferred term employability skills. There is no one definitive list of generic skills, but each list includes the following elements: (1) basic/fundamental skills; (2) people-related skills; (3) conceptual/thinking skills; (4) personal skills and attributes; (5) skills related to the business world; and (6) skills related to the community. Each sector of education schools, vocational education and training, higher education, and adult and community education has a role to play in helping people develop their generic skills. Australia's education sectors have facilitated generic skills development in isolation, but a collaborative cross-sectorial approach that focuses on the generic skills most closely linked with employability is being developed and will be appraised in 2004. (Contains 5 figures and 22 references.) (MO)

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Defining generic skills

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At a glance

genericskills

Generic skills are taking on increased importance in Australia and internationally. This *At a glance* explains why there is such an interest in generic skills and describes how they have been defined and addressed in educational programs in Australia. It also compares the different definitions and interpretations of generic skills in various overseas countries.

Key findings

- There is a high demand for generic skills in the workplace. Employers seek to ensure business success by recruiting and retaining employees who have a variety of skills and personal attributes, as well as technical skills. Individuals also need a range of generic skills to form and maintain family and community relationships.
- Put simply, generic skills are those that apply across a variety of jobs and life contexts. They are also known by several other names, including key skills, core skills, essential skills, key competencies, necessary skills, transferable skills and employability skills. Industry's preferred term is employability skills.

  The process of defining generic skills in Australia, the United Kingdom, the United States and Canada has involved two phases. Early initiatives produced sets of skills relevant to work and life generally; employer-led initiatives then followed, resulting in extended lists of skills closely related to employability.

  There is no one definitive list of generic skills; instead, there are a number of lists. Collectively, the lists have six common elements:
  - *basic/fundamental skills*
  - *people-related skills*
  - *conceptual/thinking skills*
  - *personal skills and attributes*
  - *skills related to the business world*
  - *skills related to the community* (for details see box 4, p.8).
- Each sector of education—schools, vocational education and training (VET), higher education and adult and community education—has a role to play in helping people to develop their generic skills. These skills are developed throughout a person's life and in multiple settings, including work and life settings and educational contexts.
- Australia's education sectors have been facilitating generic skills development for several years, but in isolation. However, a collaborative cross-sectoral approach is being developed in Australia, to be appraised in 2004. Those generic skills most closely linked with employability are the focus of this approach.
- While the focus on generic skills has largely been related to definitions and standards development, their implementation is increasingly being seen as a teaching and learning issue.

A companion to this *At a glance* called *Fostering generic skills in VET programs and workplaces* (NCVER 2003) focusses on recent research findings on how generic skills are understood and being fostered specifically within Australian VET providers and workplaces.

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Why are generic skills important?

Generic skills are important because jobs today require flexibility, initiative and the ability to undertake many different tasks. They are not as narrowly prescribed and defined as in the past and generally they are more service oriented, making information and social skills increasingly important.

Employers now focus on adaptation, cost reduction, increased productivity, and new markets, products and services. Employees need to demonstrate teamwork, problem-solving, and the capacity to deal with non-routine processes. They should also be able to make decisions, take responsibility and communicate effectively. Proficiency in the broad range of generic skills has become the main requirement for the modern worker (Australian Chamber of Commerce and Industry & Business Council of Australia 2002).

Employers seek to recruit and retain employees with these skills; thus, education programs that emphasise such skills offer learners a comparative advantage in the labour market. Education providers are also interested in generic skills because they encourage learners to be more reflective and self-directed (Hager, Holland & Beckett 2002).

Internationally, there is increasing emphasis being placed on active citizenship and community capacity as reflected in the extensive work on learning communities. Generic skills feature prominently in this body of literature as fundamental to developing successful, progressive communities.

Developments in defining generic skills

Generic skills are also known by a number of terms overseas. In some countries they are specifically employment related, while in others greater emphasis has been placed on their social relevance. Box 1 outlines the different labels being used for generic skills in various countries.

Box 1: Terms used in various countries to describe generic skills

United Kingdom	Core skills, key skills, common skills
New Zealand	Essential skills
Australia	Key competencies, employability skills, generic skills
Canada	Employability skills
United States	Basic skills, necessary skills, workplace know-how
Singapore	Critical enabling skills
France	Transferable skills
Germany	Key qualifications
Switzerland	Trans-disciplinary goals
Denmark	Process independent qualifications

Developments in the definition of generic skills in Australia are summarised below. Their development in the United Kingdom, Canada and the United States is also described for comparative purposes. While this *At a glance* focusses on these three countries, many other developed countries are also undertaking generic skills work. DeSeCo (Definition and Selection of Competencies) is an international project supported through the Organisation for Economic Co-operation and Development (OECD). It offers a theoretical, academic approach to defining generic skills and makes an interesting comparison with the approaches of individual countries which are based on the views of employers and educators.

Australia

In Australia the focus on generic skills first began in the 1980s and was re-invigorated in the late 1990s due to industry-led initiatives. A chronology of key developments is provided in box 2.

The Mayer Committee report (Australian Education Council, Mayer Committee 1992) is a major milestone in the establishment of generic skills in Australia. The Committee made many key decisions which continue to impact on educational policy regarding generic skills.

Box 2: Key developments in generic skills in Australia

Early initiatives	
1985 Karmel Committee	The Committee chaired by Peter Karmel looks into the quality of education in Australia (Quality of Education Review Committee 1985). It highlights the importance of an internationally competitive labour force and stresses that outcomes of education should contribute to Australia's competitiveness. The Committee recommends that students in primary and secondary schooling be prepared for both education and employment through attaining skills such as accessing information, communication and working in groups.
1991 Finn Review	A review of young people's post-compulsory education and training in Australia by Finn (Australian Education Council Review Committee 1991) recognises the importance of young people developing key competencies. Due to changing technology and changing economic circumstances, the training system must emphasise both the acquisition of specific technical skills for the job and flexibility. This requires strong grounding in generic and transferable skills.
1992 Mayer Committee	At Finn's recommendation, the Mayer Committee (Australian Education Council, Mayer Committee 1992) develops a set of key competencies essential to preparing young people for employment. Seven competencies result from extensive consultation with the various education sectors and the business community.
Industry-led initiatives	
1999 Australian Industry Group	The Australian Industry Group commissions a report (Allen Consulting Group 1999) that draws attention to the importance of both 'hard' (notably information technology) skills and 'soft' skills (for example problem-solving, team skills, willingness to be adaptable) which need to be developed prior to recruitment.
2002 ACCI/BCA	The Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA) undertake a study of employers' views on generic skills. They produce an expanded list of skills as the basis for employability, which includes the various stages of working life. The report acknowledges that combinations of these skills lead to high job-related performance and their integration in real life should not be overlooked in how they are developed and assessed.
Joint initiatives	
2002– National Policy Development	The Australian National Training Authority (ANTA) takes up the issue of employability skills development through the VET sector, including pilot testing various approaches to improving the identification of these skills in training packages. This is in response to consultations and research that indicate success in the teaching and learning of these skills depends on them being made more explicit. In July, ANTA begins to co-ordinate a collaborative cross-sectoral approach to employability skills as defined by Australian industry, to be appraised in 2004.

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The Mayer Committee defined key competencies as:

> ... competencies essential for effective participation in the emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the key competencies are not only essential for participation in work, but are also essential for effective participation in further education and in adult life more generally. (Australian Education Council, Mayer Committee 1992, p.7)

The Committee articulated principles that would guide whether proposed specific skills were accepted as key competencies. Proposed skills had to:

- be essential to preparation for employment
- be generic to the kinds of work and work organisation emerging in the range of occupations at entry levels within industry rather than occupation- or industry-specific
- equip individuals to participate effectively in a wide range of social settings, including workplaces and adult life more generally
- involve the application of knowledge and skill
- be able to be learned
- be amenable to credible assessment

(Australian Education Council, Mayer Committee 1992, p.12)

After wide consultations, the Mayer Committee arrived at the list of seven key competencies identified in box 3.

Although the Committee was urged to include cultural understanding as an eighth key competency, it stated that 'both the principles and characteristics the Committee has used to construct the set of key competencies preclude the inclusion of values and attitudes' (1992, p.13).

The Mayer Committee recommended that three levels of performance be recognised for each of the seven key competencies, and that assessment occur on at least two occasions to ensure the demonstrated skills were being applied broadly.

- Performance Level 1 describes the competence needed to undertake activities efficiently and with sufficient self-management to meet the explicit requirements of the activity and to make judgements about the outcome against established criteria.
- Performance Level 2 describes the competence needed to manage activities requiring the selection, application and integration of a number of elements, and to select from established criteria to judge quality of process and outcome.
- Performance Level 3 describes the competence needed to evaluate and reshape processes, to establish and use principles in order to determine appropriate ways of approaching activities, and to establish criteria for judging quality of process and outcomes.

(Australian Education Council, Mayer Committee 1992, p.18)

During the mid-1990s, considerable effort was expended in implementing the Mayer key competencies in Australian schools and VET programs. However, attention was diverted from the key competencies to other reforms. It was due to Australian industry that attention re-focussed on generic skills in recent times. Higher education institutions have also recently begun to pay explicit attention to these skills.

In 1999, the Australian Industry Group commissioned a report into the training needs of Australia's industries (Allen Consulting Group 1999). The report canvassed the views of 350 companies from the manufacturing, construction, and information technology sectors. Among many findings, the report notes that:

> ... an increasing premium is being placed on generic skills, both 'hard' (notably IT [information technology] skills) and 'soft' (eg. problem-solving, team skills, willingness and ability to adapt) to be developed prior to recruitment. (Allen Consulting Group 1999, p.v)

The report outlined generic skills that are required by Australian industry to remain globally competitive. They included: *basic skills* such as literacy and numeracy, *interpersonal skills* such as communication and teamwork, and *personal attributes* such as the capacity to learn and embrace change.

Box 3: Summary of ACCI/BCA employability skills compared with Mayer key competencies

Employability skills		Mayer key competencies
Communication skills	that contribute to productive and harmonious relations between employees and customers	Communicating ideas and information Using mathematical ideas and techniques
Teamwork skills	that contribute to productive working relationships and outcomes	Working with others and in teams
Problem-solving skills	that contribute to productive outcomes	Solving problems
Initiative and enterprise skills	that contribute to innovative outcomes	
Planning and organising skills	that contribute to long-term and short-term strategic planning	Planning and organising activities Collecting, analysing and organising information
Self-management skills	that contribute to employee satisfaction and growth	
Learning skills	that contribute to ongoing improvement and expansion in employee and company operations and outcomes	
Technology skills	that contribute to effective execution of tasks	Using technology
Personal attributes		
Loyalty	Personal presentation	
Commitment	Common sense	
Honesty and integrity	Positive self-esteem	
Enthusiasm	Sense of humour	
Reliability	Ability to deal with pressure	
Balanced attitude to work and home life	Adaptability	
Motivation		

Source: Australian Chamber of Commerce and Industry & Business Council of Australia 2002

Building on this work, the Australian Chamber of Commerce and Industry, and the Business Council of Australia (2002) undertook a comprehensive study of the skills commonly required by both new and existing employees to work successfully in organisations. Their methodology included an extensive literature review from Australia and overseas, focus groups and interviews with individuals from small, medium, and large enterprises, and a validation exercise involving extensive consultation with companies and employer organisations. They derived a set of key skills which they called employability skills. This is industry's preferred term for this set of generic skills.

The report defined employability skills as:

> ... skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions. Employability skills are also sometimes referred to as generic skills, capabilities or key competencies.
>
> (Australian Chamber of Commerce and Industry & Business Council of Australia 2002, p.3)

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The report also proposes an Employability Skills Framework which is made up of eight major skill groups and a variety of personal attributes (see box 3).

Noteworthy features of the Employability Skills Framework are that it:

- incorporates the Mayer key competencies within the major skills
- adds personal attributes to the scope
- elaborates each of the major skills through lists of 'elements'. This acknowledges that major skills vary in detail between different work contexts, while retaining the central concept of broadly applicable generic skills
- shows that to achieve some work-related skills, the major skills need to be in combinations. For example, customer service involves both communication and problem-solving
- reveals that it is not necessary to develop an exhaustive list of skills. It is more productive to identify a common set of skills that, in combination, lead to high job-related performance.

Overseas developments in defining generic skills

United Kingdom

Key developments in defining generic skills in the United Kingdom have been similar to those in Australia. Initially, they were called 'core skills' and, following their revision, 'key skills'. Employers have since added other skills and referred to them as 'employability skills'.

In the United Kingdom, key skills are defined as those relevant to a person's learning, career and to personal life, with a strong emphasis on their application to employability. They comprise a list of skills similar to Australia's key competencies, and are divided into a core set of three basic skills and three wider key skills.

The three basic skills, which comprise a national Key Skills Qualification, include:

- communication
- numeracy or the application of numbers
- use of information technology.

The three wider key skills are:

- working with others
- improving own learning and performance
- problem-solving.

Each of the six key skills is defined at five levels (foundation, craft, technician/supervisor, higher technician/junior manager and professional/managerial). Progression is in terms of:

- degree of responsibility of the learning for using the skills
- more complex and demanding tasks, problems and situations.

The United Kingdom Confederation of British Industry has since developed the key skills scheme even further. The Confederation defined employability as:

> The possession by an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realise his or her aspirations and potential at work.
>
> (Confederation of British Industry 1998, p.6)

it identified employability skills as the six key skills, plus basic literacy and numeracy skills. It also included the following attitudes:

- adaptability

- career management
- commitment to lifelong learning.

Recent information (Turner 2002) suggests that the examination process for the Key Skills Qualification proved difficult both for individuals and the training system. The qualification involves the learner producing a portfolio of evidence and a two-tier assessment model—assessment by a training provider and then through a national external test. The lesson from the United Kingdom is that assessment models need to be carefully constructed, focussing on projects that encourage the acquisition of generic skills as well as improving formal assessment and accreditation.

Canada

Canada has also had generic skills programs since the 1970s and, like many countries, the early program produced a set of essential skills similar to the United Kingdom's key skills and Australia's key competencies. In the 1990s, employers became more involved and the Conference Board of Canada, a peak industry body, developed an alternative more extensive scheme and introduced the term employability skills.

The recently revised Employability Skills 2000+ Scheme includes:

- fundamental skills (communicate, manage information, use numbers, think/solve problems)
- personal management skills (demonstrate positive attitudes and behaviours, be responsible, be adaptable, learn continuously, work safely)
- teamwork skills (work with others, participate in projects and tasks)
- an orientation to values and attitudes with references to self-esteem, integrity, responsibility.

(Conference Board of Canada 2000)

United States

In the United States, the Secretary's Commission on Achieving Necessary Skills (SCANS) Project was the major generic skills scheme of the early 1990s. The focus of the project was broader than workforce participation and included personal fulfilment and community involvement objectives. The review of the United States skills frameworks (O'Neil, Allred & Baker 1997) found that common elements are:

- basic/foundation skills (literacy, numeracy, communication)
- higher order thinking skills (adapting to change, problem-solving, creativity, decision-making, learning how to learn)
- interpersonal and team skills (communication, co-operation, negotiation/conflict resolution, leadership, and dealing with diversity)
- personal characteristics and attitudes (including politeness, perseverance, goal-setting, positive self-worth).

The international project of DeSeCo (Definition and Selection of Competencies)

The DeSeCo Project, supported by the OECD (Rychen & Salganik 2001), takes a very different approach to defining generic skills. Past individual approaches have been based on the opinions of informed community leaders. The DeSeCo Project aimed to establish a theoretical and conceptual basis by involving academics, and commissioning papers from philosophical, anthropological, economic, psychological and sociological perspectives. The project concluded that there are three very broad competencies, each of which can be broken down to provide a more extensive list of generic skills. These three competencies are:

- acting autonomously and reflectively
- using tools interactively
- joining and functioning in socially heterogeneous groups.

The DeSeCo Project also identified four conceptual elements of key competencies:

Key competencies are multi-functional—they meet a range of different and important demands of daily and professional life. They are needed to achieve different goals and to solve multiple problems in a variety of contexts.

Key competencies are relevant across many social fields and are therefore relevant for effective participation in school and the labour market. They also play an important role in the political process, social networks and interpersonal relationships (including family life), and in developing a sense of well-being.

Key competencies refer to a high order of mental complexity—they encourage a mental autonomy which involves an active and reflective approach to life.

Key competencies are multi-dimensional—they are composed of 'know-how', analytical, cultural and communication skills and common sense.

Defining generic skills: In summary

Several features are apparent when looking at definitions of generic skills.

- Various lists of generic skills reviewed collectively have six common elements, as outlined in box 4.
- Findings from the recent International Adult Literacy Survey have encouraged a growing recognition of the need for emphasis on basic or foundation skills. Previously, it may have been assumed that they were being well developed through compulsory schooling. However, recent evidence from the survey suggests that specific attention to basic skills including literacy, numeracy and information technology is warranted in the post-compulsory education agenda.
- All major generic skills schemes include conceptual 'thinking skills' and interpersonal 'teamwork' skills.
- Recent lists of generic skills developed by employers have emphasised personal attributes, although there is variation in the particular attributes that are included.
- Commitment to ongoing learning and self-improvement is also common and may reflect renewed international interest in this concept since the mid-1990s.
- Debates and policy and practical developments regarding generic skills are likely to continue into the forseeable future.
- Current attention is focussed on those generic skills related to employability.
- Australia's list of employability skills stands out because it does not feature basic or fundamental skills explicitly. Rather, these skills are implicit in the other major skills listed.

Box 4: Common elements of various listings of generic skills

Basic/fundamental skills—such as literacy, using numbers, using technology

People-related skills—such as communication, interpersonal, teamwork, customer-service skills

Conceptual/thinking skills—such as collecting and organising information, problem-solving, planning and organising, learning-to-learn skills, thinking innovatively and creatively, systems thinking

Personal skills and attributes—such as being responsible, resourceful, flexible, able to manage own time, having self-esteem

Skills related to the business world—such as innovation skills, enterprise skills

Skills related to the community—such as civic or citizenship knowledge and skills

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Agreeing on terms for generic skills

Agreement on definitions is crucial to the development and implementation of generic skills. However, it is also important to recognise that there will probably never be one definitive list of generic skills because they need to be open to review and re-interpretation as the environment changes.

> ... it is desirable to find agreement on terminology that is acceptable to all stakeholders— schools, VET, higher education, employers, individuals, and communities and which recognises that the new agenda of generic skills for the 21st century is about essential life skills as well as enterprise and employability skills.
> (Kearns 2001, p.85)

In Australia, agreement on terms might come about through the Australian Chamber of Commerce and Industry and the Business Council of Australia Employability Skills Framework. In July 2002 the Ministerial Council on Employment, Education, Training and Youth Affairs asked the Australian National Training Authority to co-ordinate a collaborative cross-sectoral approach to generic skills. The ANTA Employability Skills Cross Sectoral Coordination Group is assessing the feasibility of implementing the Employability Skills Framework in an integrated and phased manner across the formal education and training sectors as well as the broad community. The group is to report to the Ministerial Council by 2004.

Fostering generic skills in the various education sectors in Australia

One of the key questions that the ANTA Employability Skills Cross Sectoral Coordination Group will address is the respective roles each education sector should play in fostering the development of generic skills among their students.

The school sector

Efforts were made in all Australian states and territories during the mid-1990s to implement the Mayer key competencies in schools. These initiatives followed intensive work on the National Statements and Profiles and occurred at a time of upheaval in the sector. The reviews of curriculum development in the states and territories indicated that a combination of too much change coupled with industrial action impeded the full implementation of key competencies on a national basis.

Of all the states and territories, Tasmania appears to be the most advanced (Comyn 2002). Tasmania has a framework for explicitly assessing and reporting the Mayer key competencies for implementation through the Tasmanian Certificate of Education but this is now on hold, awaiting the outcomes of the national collaborative work.

The *Adelaide Declaration on National Goals for Schooling in the Twenty-First Century* (Ministerial Council on Education, Employment, Training and Youth Affairs 1999) provides a renewed push for generic skills developments in schools. The Adelaide Declaration provides a broad framework for curriculum development in Australia's schools. The national goals seek to ensure the employability of those who pass through Australia's school systems, but they go beyond employment-specific skills. The preamble to the Adelaide Declaration notes the importance of schooling in providing a basis for students' participation in the social, cultural, and economic dimensions of Australian society and acknowledges the need for lifelong learning to enable continued participation.

The Adelaide Declaration incorporated all the Mayer key competencies directly, as well as specified achievements in personal, interpersonal, ethical, civic, and employment-related dimensions of learning. These aims are most evident in goals 1.5, 2.3, and 2.4, which show the need for students to:

1.5 have employment related skills and an understanding of the work environment, career options and pathways as a foundation for, and positive attitudes towards, vocational education and training, further education, employment and life-long learning.

2.3 [have] participated in programs of vocational learning during the compulsory years and have had access to vocational education and training programs as part of their senior secondary studies.

2.4 [have] participated in programs and activities which foster and develop enterprise skills, including those skills which will allow them maximum flexibility and adaptability in the future.

More recently, the report of the Prime Minister's Youth Pathways Action Plan Taskforce has urged relevant authorities to accelerate the implementation of the National Goals for Schooling, including a recommendation that:

> Commonwealth, State and Territory Governments in consultation with key industry organisations and the Australian National Training Authority develop a nationally agreed set of key employability competencies to reflect changes in the workplace, emerging new industries over the last ten years and projected changes to the year 2010. (Prime Minister's Youth Pathways Action Plan Taskforce 2001, Recommendation 2)

This has now been achieved and the Employability Skills Framework is currently under discussion in the school sector throughout Australia as part of the cross-sectoral collaboration project.

The higher education sector

The higher education sector and business community are showing an interest in generic skills.

> ... the term 'generic skills' is used widely to refer to a range of qualities and capacities that are increasingly viewed as important in higher eduction. These include thinking skills such as logical and analytical reasoning, problem solving and intellectual curiosity; effective communication skills, teamwork skills and capacities to identify, access and manage knowledge and information, personal attributes such as imagination, creativity and intellectual rigour and values such as ethical practice, persistence, integrity and tolerance.
> (Hager, Holland & Beckett 2002, p.2)

The authors suggest that assessment is a key issue and challenge the assumption that these skills will be developed through the higher education experience without explicit attention:

> A common theme for teaching and learning of generic skills is that success depends crucially on them being made explicit for students. Leaving them implicit, as they are in many traditional courses, does little to encourage learning and development. (Hager, Holland & Beckett 2002, p.6)

Many universities have begun to pay particular attention to articulating sets of generic skills as desirable characteristics of their graduates. Best practice examples for developing generic skills among university students have recently been published in the April 2003 edition of the *B-Hert News* (Business/Higher Education Round Table 2003). Articles demonstrate that generic skills are being addressed seriously and that a variety of initiatives involving these skills is being pursued.

Box 5: Illustrative example of desired attributes of university graduates

Operates effectively with and upon a body of knowledge of sufficient depth to begin professional practice

Prepares for lifelong learning in pursuit of personal development and excellence in professional practice

Solves problems effectively, and is capable of applying logical, critical, and creative thinking to a range of problems

Works both autonomously and collaboratively as a professional

Commits to ethical action and social responsibility as a professional and citizen

Communicates effectively in professional practice and as a member of the community

Demonstrates international perspectives as a professional and as a citizen

Source: University of South Australia

The graduate skills assessment

A particularly interesting initiative in the higher education sector has been the Graduate Skills Assessment Project (Australian Council for Educational Research 2001) supported by the then Commonwealth Department of Education, Training and Youth Affairs. The graduate skills assessment is an instrument approach to the assessment of generic skills that is administered as a three-hour test. Through a consultation process with universities, four priority areas were selected for assessment: critical thinking, problem-solving, interpersonal understanding and communication. Communication skills were assessed by asking students to write both an argumentative essay and a report. The other three components were assessed through multiple choice questions.

The graduate skills assessment has been taken by 3600 students from 28 Australian universities. Analyses of the data reveal that the four priority areas assessed are robust and that the test has good measurement properties.

Two findings are of particular interest in interpreting graduate skills assessment scores. First, students from disciplines that have high entrance score requirements—for example, medicine and law—have overall higher scores on the graduate skills assessment. This result is expected, as university admission scores are predictors of academic performance. However, the correlations are not uniformly high, indicating that factors other than past academic achievement have an effect. Second, students from different disciplines reveal different profiles on the four components. For example, engineering students achieve superior results on the problem-solving component compared with nursing students, but nursing students perform better than engineers on the interpersonal skills component.

The graduate skills assessment shows that the instrument approach to assessment, in addition to giving information to individuals about their performance, is able to provide data that can be aggregated at course, institution, and system levels. This, in turn, provides information for both policy-makers and teachers.

Developments in the VET sector

For this sector, the focus is very much on the implementation of the industry-identified employability skills. However, most of the activity to date has been centred on the narrower Mayer key competencies and their incorporation in national training packages. Training packages aim to describe the full range of work activities for each level of job within an industry and contain the endorsed national competency standards, assessment guidelines and qualifications at different levels of the Australian Qualifications Framework. The competency standards comprise units of competency, the range of variables statement and an evidence guide for assessment. They can be developed for industries or specifically for enterprises.

Guidelines for training package developers require the incorporation of the seven Mayer key competencies and their related performance levels for each unit of competence. Recent research has found that generally the key competencies are incorporated in training packages but not on a consistent basis, and the concept of levels of performance for each key competency is not well addressed (Dawe 2002; Clayton et al. forthcoming).

This research also found that communication skills are the generic skills represented most comprehensively in training packages. Other well-established skill areas include planning and organising, technology and teamwork. However, there are some skill areas which are not being well addressed. These include variations on established skills such as creative problem-solving and communicating with empathy, and new skill areas such as learning and self-management. To date, most VET providers implicitly assess key competencies; the exception being Torrens Valley Institute of TAFE in South Australia, which has a full certification procedure in place (Denton forthcoming).

Overall, while there have been good attempts at specifying these skills, there are gaps still to be filled which are presently under active investigation. Work is currently being carried out on options for incorporating the employability skills in training packages in a way that facilitates the recognition and certification of these skills (Ratio Pty Ltd & Down 2002).

Conclusion

The development of generic skills is a matter of continued importance to each education sector in Australia. Those skills closely associated with employability are under examination by all sectors at present. There is general agreement that these skills and attributes are developed in many contexts, but still require explicit attention. Explicit assessment in context and on multiple occasions are essential features of learning these skills and of being able to reliably report performance. There are examples to show that generic skills can be assessed.

In educational settings the focus is on helping students to become 'work ready' in terms of their generic skills development. In workplaces we expect to see the 'accomplished performance' stage. For this to occur, employers also need to further generic skills development among their employees. What recent research has found out about how generic skills are understood and being fostered specifically within Australian VET programs and workplaces is the subject of a companion *At a glance* called *Fostering generic skills*.

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